

AMENDMENTS TO THE CLAIMS

This listing of claims will replace all prior versions, and listings, of claims in this application.

1. (Currently amended) A computer software program recorded on a machine-readable medium and containing machine readable instructions for execution by an electronic processor to provide a database management system, the program comprising in accordance with a database management schema,

a database management schema comprising;

a first table to store the names of various entity types;

a second table related to the first table to store the names of entities of the various entity types;

a third table related to the first table to store the names of fields in respect of the various entity types;

one or more value storage tables related to the second and third tables to associate stored field values with entities; and

identifiers to indicate the nature of the data to be stored in each of said tables.

2. (Previously presented) A computer software program according to claim 1, wherein the schema includes a first hierarchical relationship applied to the first table and a second hierarchical relationship applied to the second table to facilitate definition of hierarchical entities.

3. (Previously presented) A computer software program according to claim 1, wherein the schema includes tables to store relationships between the entities.

4. (Previously presented) A computer software program according to claim 1, wherein the first table includes a column to store pointers corresponding to entity types the pointers indicating locations from which default values may be obtained during creation of new instances of the entity types.

5. (Previously presented) A computer software program according to claim 1, wherein the third table includes a column to store data indicating that a newly created entity's name is to be generated from data stored in columns of the one or more value storage tables.

6. (Previously presented) A computer software program according to claim 1, wherein the one or more value storage tables comprise a number of value tables each including a column of values of a particular type.

7. (Previously presented) A computer software program according to claim 6, wherein one or more of the value tables are each related to one or more other tables of the schema.

8. (Previously presented) A computer software program according to claim 7, wherein the one or more of the value tables are each related to the second table.

9. (Previously presented) A computer software program according to claim 8, wherein the one or more of the value tables are arranged to store pointers to data stored external to data structures created by the computer software program.

10. (Previously presented) A computer software program according to claim 6, wherein the schema includes a data type table relating names of the value storage tables to corresponding names of the column of values of a particular type.

11. (Previously presented) A computer software program according to claim 10, wherein the data type table is related to the third table.

12. (Previously presented) A computer software program according to claim 11, wherein the data type table is related to an intermediate value type table and wherein the value type table points to the third table.

13. (Previously presented) A computer software program according to claim 1, wherein the third table includes columns to define multiple field functionality.

14. (Previously presented) A computer software program according to claim 6, wherein the third table includes a column to indicate if historical data values are to be stored in respect of a corresponding field type and wherein the value storage tables each include a column to store current values of said field type and to store data indicating when the current values were written.

15. (Previously presented) A computer software program according to claim 6, wherein the third table includes a column to store values indicating whether or not values of a newly created instance of an entity are to be inherited from another instance of an entity.

16. (Previously presented) A computer software program according to claim 6, wherein the schema includes a format table having columns to store data storage formats.

17. (Previously presented) A computer software program according to claim 6, wherein the schema includes one or more tables to store values indicating groupings of sets of fields.

18. (Currently amended) A method implemented by means of an electronic processor to store data ~~in tables of a database management schema~~, the data concerning a number of entities of various entity types and relationships between the various entity types, the method comprising the steps of:

providing the database management schema for storing identifiers of each of the entity types in a first table of the ~~database management~~ schema;

storing identifiers of each of the number of entities in a second table of the schema, the second table being related to the first table;

storing identifiers of each of a number of field types for the various entity types in a third table of the schema, the third table being related to the first table; and

storing field values associated with the entities in one or more value storage tables of the schema, the one or more value storage tables being related to the second and third tables.

19. (Original) A method according to claim 18 further including:

storing hierarchical entities by applying a first hierarchical relationship to the first table and a second hierarchical relationship to the second table.

20. (Original) A method according to claim 18 further including:

storing data in one or more tables defining relationships between the entities.

21. (Previously presented) A method according to claim 20, wherein the step of storing data defining relationships includes:

storing data identifying various relationship types in a fourth table; and

storing data identifying relations in a fifth table.

22. (Original) A computational device operated according to the method of claim 18.

23. (New) A computer software product according to claim 1, wherein the electronic processor manages the database in accordance with the database schema.

24. (New) A computer software product according to claim 1, wherein electronic processor:
stores the database schema; and,
manages the database using the stored schema.

25. (New) A computer software product according to claim 1, wherein the electronic processor:

accesses the schema; and,
interacts with the database using the schema.

26. (New) A computer software product according to claim 25, wherein the interaction includes at least one of:

- a) viewing data;
- b) editing data;
- c) listing data;
- d) searching data; and,
- a) reporting.

27. (New) A computer software product according to claim 1, wherein the electronic processor is for converting a first database to a second database, by, for each first database table:

- a) storing a name of the first database table as an entity type in a first table in the second database;
- b) for each field of the first database table, storing a field name as a field type in a third table related to the first table;
- c) for each entry in the first database table:
 - i) storing an entity representing the entry in a second table related to the first table; and
 - ii) storing values for each of a number of fields in the entry, in at least one value storage table related to the second and third tables.

28. (New) A computer software product according to claim 27, wherein the electronic processor is for:

- a) storing an entity type identifier for each entity type in the first table;
- b) for each entity in the second table, storing an entity identifier together with the entity type identifier of the corresponding entity type;
- c) for each field type in the third table, storing a field type identifier together with the entity type identifier of the corresponding entity type;
- d) for each field in the value table, storing:

- i) a field identifier;
- ii) a corresponding value for the field;
- iii) a corresponding entity identifier for the field; and,
- iv) a corresponding field type identifier for the field.

29. (New) A computer software product according to claim 1, wherein the second table includes, for each stored entity, an indication of a corresponding entity type stored in the first table.

30. (New) A computer software product according to claim 1, wherein the third table includes, for each stored field type, an indication of a corresponding entity type stored in the first table.

31. (New) A computer software product according to claim 1, wherein the schema includes a fourth table related to the second and third tables for storing fields and wherein, at least one of:

- the one or more value tables are related to the fourth table; and,
- the one or more value tables are the fourth table.

32. (New) A computer software product according to claim 1, wherein the one or more storage value tables include, for each stored field value:

- a) an indication of a corresponding entity stored in the second table; and,
- b) at least one of:
 - iii) an indication of a corresponding field type stored in the third table; and,
 - iv) an indication of a corresponding field stored in a fourth table.

33. (New) computer software product according to claim 1, wherein the first table includes at least:

- an identifier column including an identifier for each entity type; and,
- a name column including a name for each entity type.

34. (New) A computer software product according to claim 1, wherein the second table includes at least:

- a) an identifier column including an identifier for each entity;
- b) a name column including a name for each entity; and,

c) an entity type identifier column including an identifier for a corresponding entity type for each entity.

35. (New) A computer software product according to claim 1, wherein the third table includes at least:

- a) an identifier column including an identifier for each field type; and,
- b) a name column including a name for each field type; and,
- c) an entity type identifier column including an identifier for a corresponding entity type for each field type.

36. (New) A computer software product according to claim 1, wherein the at least one value table includes at least:

- an identifier column including an identifier for each value; and,
- a value column including a value for each field.

37. (New) A computer software product according to claim 1, wherein the at least one value table includes:

- an entity identifier column including an entity identifier indicative of a corresponding entity for each field; and,
- an field type identifier column including a field type identifier indicative of a corresponding field type for each field.

38. (New) A computer software product according to claim 1, wherein the one or more value tables include a field identifier column including an identifier for a corresponding field for each value, and wherein the schema includes a fourth table, the fourth table including.

- an entity identifier column including an entity identifier indicative of a corresponding entity for each field; and,
- an field type identifier column including a field type identifier indicative of a corresponding field type for each field.

39. (New) A database schema for use in managing a database, the database schema including:

- a) a first table to store the names of various entity types;

- b) a second table related to the first table to store the names of entities of the various entity types;
- c) a third table related to the first table to store the names of fields in respect of the various entity types;
- d) one or more value storage tables related to the second and third tables to associate stored field values with entities; and
- e) identifiers to indicate the nature of the data to be stored in each of said tables.